

PROJECT DESCRIPTION

I. GENERAL

This project involves the installation of a Traffic Control Signal with street lighting at the intersection of MD 118 (Germantown Road) and Goldenrod Lane in Montgomery County. Video detection shall be used in all directions. MD 118 (Germantown Road) is assumed to run in a north-south direction.

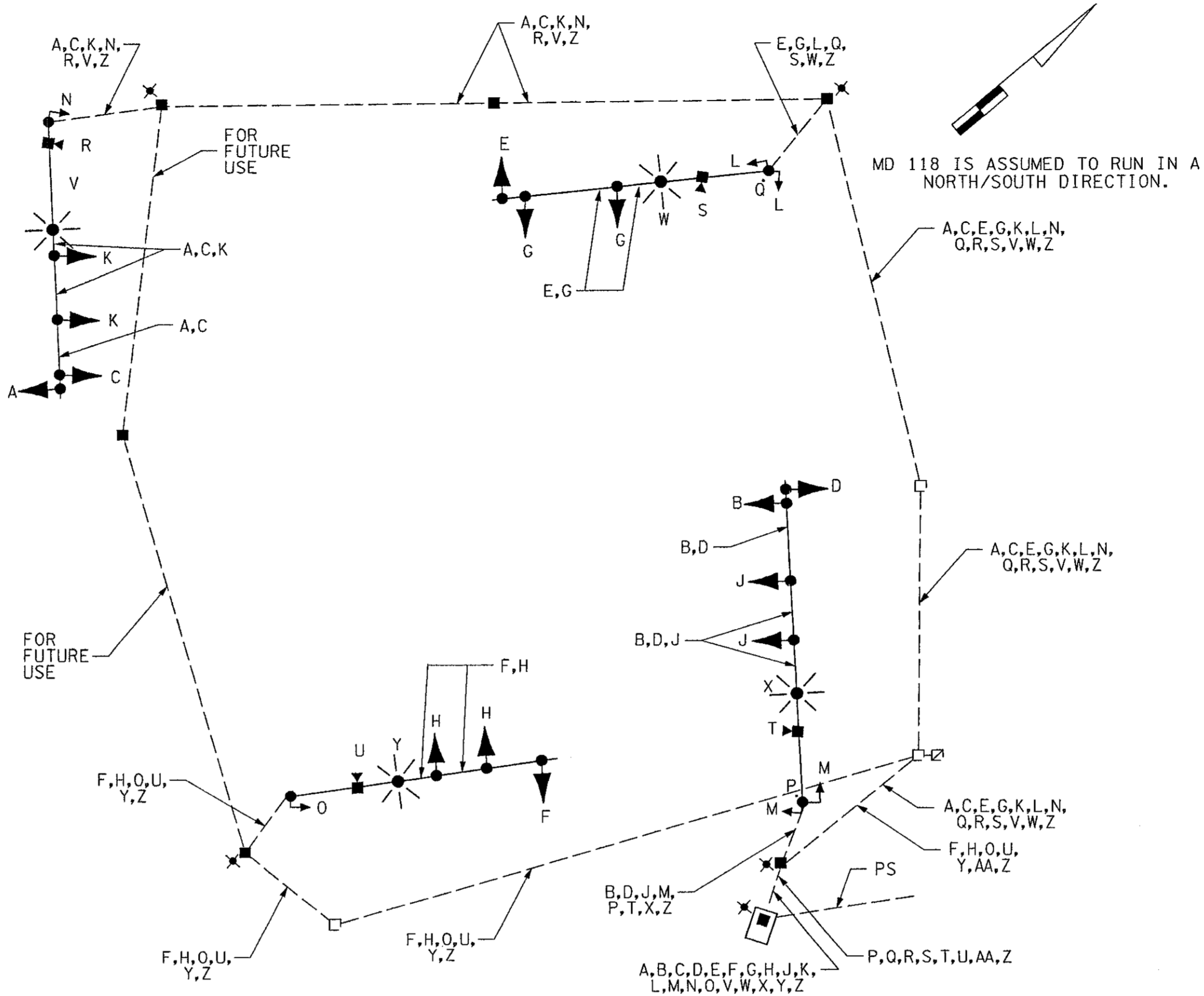
II. INTERSECTION OPERATION

- The Intersection is to operate in a NEMA eight-phase, fully actuated mode, with the Goldenrod Lane approaches running concurrently. Exclusive/Permissive left turn phases shall be used for the northbound and southbound approaches of MD 118. Ultimately, the future volumes may necessitate a northbound double left turn lane with Exclusive left turn phasing. Accordingly, the northbound approach is designed such that the left-most lane is striped with hatching, and not to be used when the signal initially comes into operation. At such time that the additional left turn lane becomes necessary, the signal phasing for this approach will be Exclusive. The pedestrian phases across Goldenrod Lane shall be placed on recall. Pedestrian phases with pushbutton activation shall be provided across the north leg of MD 118 (Germantown Road). Farside sampling stations, using video camera detection shall be provided on both legs of MD 118 (Germantown Road) at this intersection.

III. SPECIAL NOTES

- The contractor shall be responsible for terminating all signal cables to the appropriate terminals and shall properly label each cable.
- All underground and overhead utilities shown on these plans are schematic only and may not be complete. The Contractor shall be responsible for notifying Miss Utility prior to construction so that all utilities may be located in the field. If the Contractor perceives that a conflict between the utilities and the traffic signal will occur, the Contractor shall notify the Project Engineer immediately so that the conflict may be resolved.

WIRING DIAGRAM



SEQUENCE OF OPERATION SHEET

TRAFFIC OPERATIONS SECTION
DIVISION OF TRAFFIC ENGINEERING
MONTGOMERY COUNTY, MARYLAND

INTERSECTION: GERMANTOWN RD (MD 118) AND GOLDENROD LANE NO. _____

SIGNAL NO.	SIGNAL HEAD INDICATIONS		
	2,3,7,8,9,10,11,12,13,14	1,4,5,6	15,16,17,18,19,20
TOTAL:	10	4	6
LEGEND	(R)	(R)	(H)
	(Y)	(Y)	(P)
	(G)	(G)	9" or 12"
	12"	12"	X
OPTICALLY LIMITED			
R RED			
Y YELLOW			
G GREEN			
ARROW			
F FLASHING			

SEQUENCE OF OPERATION																						F & R
SIGNAL NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	
1	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	FL/Y
2	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	FL/Y
3	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	FL/Y
4	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	FL/Y
5	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	FL/Y
6	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	FL/Y
7	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	FL/Y
8	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	FL/Y
9	R	R	R	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	FL/R
10	R	R	R	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	FL/R
11	R	R	R	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	FL/R
12	R	R	R	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	FL/R
13	R	R	R	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	FL/R
14	R	R	R	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	FL/R
15	WK	WK	WK	WK	WK	WK	WK	WK	WK	WK	WK	WK	WK	WK	WK	WK	WK	WK	WK	WK	WK	DARK
16	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DARK
17	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DARK
18	WK	WK	WK	WK	WK	WK	WK	WK	WK	WK	WK	WK	WK	WK	WK	WK	WK	WK	WK	WK	WK	DARK
19	WK	WK	WK	WK	WK	WK	WK	WK	WK	WK	WK	WK	WK	WK	WK	WK	WK	WK	WK	WK	WK	DARK
20	WK	WK	WK	WK	WK	WK	WK	WK	WK	WK	WK	WK	WK	WK	WK	WK	WK	WK	WK	WK	WK	DARK
PHASE	2 & 6	ALL RED	4 & 8	ALL RED	1 & 5	ALL RED	2 & 5	ALL RED	1 & 6	ALL RED	ALT. 8	ALL RED										

NOTES:

SUBMITTED:	CHECKED:	APPROVED:
IN SERVICE BY:	DATE:	TIME:

EQUIPMENT LIST

A. Approved S.H.A. equipment to be purchased by the Developer and installed by the Contractor. All equipment in this list shall have catalog cuts submitted for approval prior to installation.

QUANTITY	UNITS	SPECIFICATION SECTION	DESCRIPTION
1	EA	818	27 ft. steel mast arm pole with 70 ft. mast arm.
2	EA	818	27 ft. steel mast arm pole with 60 ft. mast arm.
1	EA	818	27 ft. steel mast arm pole with 50 ft. mast arm.
1	EA	816	Standard S.H.A. traffic signal controller and base mounted cabinet.
4	EA	---	Video camera detection (to include all necessary cables).
4	EA	814	12 in., black faced, one-way, five section (R, YA, Y, GA, G) adjustable traffic signal head with mast arm mounting hardware and tunnel visors.
10	EA	814	12 in., black faced, one-way, three section (R, Y, G) adjustable traffic signal head with mast arm mounting hardware and tunnel visors.
6	EA	814	12 in., one-way, two section (symbolic DW, WK) adjustable pedestrian signal ahead with adjustable bracket for pole mounting.
2	EA	813	30 in. x 36 in. R 3-5(L) sign with mast arm mounting hardware.
1	EA	813	30 in. x 36 in. R 3-5(R) sign with mast arm mounting hardware.
2	EA	813	36 in. x 42 in. R 10-12 sign with mast arm mounting hardware.
6	EA	813	16 in. x Var. D 3-2 (Dual Faced) sign with under mast arm mounting hardware.
4	EA	813	48 in. x 48 in. W3-3 sign for ground mounting.
2	EA	817	Pedestrian pushbutton assembly with pushbutton sign. (NOTE: Signs to read "PUSH BUTTON TO CROSS GERMANTOWN RD")
4	EA	806	20 ft. luminaire arm.
4	EA	806	250 W H.P.S. lamp and luminaire.

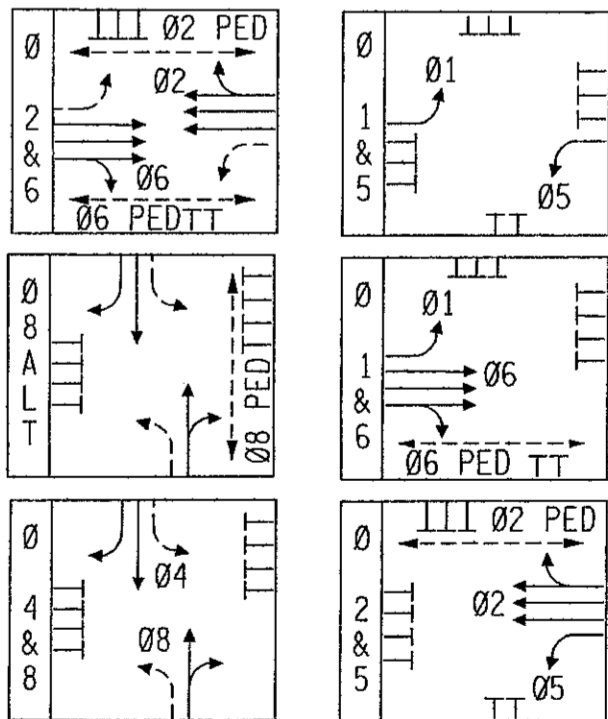
B. Equipment to be furnished and/or installed by the Contractor. All equipment in this list shall have catalog cuts submitted for approval prior to installation.

QUANTITY	UNITS	SPECIFICATION SECTION	DESCRIPTION
Lump Sum	LS	108	Mobilization.
Lump Sum	LS	104	Maintenance of traffic.
3	CY	205	Test pit excavation.
6	EA	811	Handhole.
880	LF	810	2-conductor electrical tray cable (No. 12 A.W.G.).
220	LF	810	2-conductor electrical cable (No. 14 A.W.G.).
540	LF	810	3-conductor electrical cable (No. 14 A.W.G.).
1250	LF	810	5-conductor electrical cable (No. 14 A.W.G.).
1870	LF	810	7-conductor electrical cable (No. 14 A.W.G.).
520	LF	804	Bare copper stranded ground wire (No. 6 A.W.G.).
40	LF	805	3 in. polyvinyl chloride (Schedule 80) electrical conduit - trenched.
140	LF	805	4 in. polyvinyl chloride (Schedule 80) electrical conduit - trenched.
370	LF	805	4 in. polyvinyl chloride (Schedule 80) electrical conduit - bored.
25	CY	801	Concrete foundation for traffic signal equipment.
5	EA	804	Ground rod - 1/2 in. diameter x 10 ft. length.
1	EA	807	Control and distribution equipment (120/240 V, one phase, three wire system) for a type B-16 underground electrical service.
80	LF	812	4 in. x 4 in. wood sign support.
530	LF	556	12 in. wide HAPPTM - white for crosswalk.
450	LF	556	12 in. wide HAPPTM - yellow for hatched out for future NB left turn lane.
180	LF	556	24 in. wide HAPPTM - white for stop line.
150	LF	566	24 in. wide HAPPTM - yellow for hatched out for future NB left turn lane.

WIRING KEY

- 7-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
- 5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
- 3-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
- 2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
- VIDEO DETECTION CABLE
- 2-CONDUCTOR TRAY CABLE (NO. 12 A.W.G.)
- Z - STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)
- AA - 12 PAIR INTERCONNECT CABLE (NO. 9 A.W.G.), PROVIDED BY AND INSTALLED BY MONTGOMERY COUNTY DPWT FORCES.
- PS - PROPOSED UNDERGROUND SERVICE TO BE INSTALLED BY PEPCO
- + - GROUND ROD

PHASING



→ PROTECTED MOVEMENT
---→ PERMISSIVE MOVEMENT

The contact persons for District #3 (Montgomery County) are as follows:

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Mr. Robert Gonzales
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MARYLAND DOT - STATE HIGHWAY ADMINISTRATION
Office of Traffic & Safety
TRAFFIC ENGINEERING DESIGN DIVISION
MD 118 (GERMANTOWN ROAD) AND
GOLDENROD LANE/SENECA MEADOWS PARKWAY

DRAWN BY: REA	F.A.P. NO. N/A	TS NO. TS 4247	SHEET NO. 2 OF 2
CHECKED BY: CDR	S.H.A. NO. BW966M82		
SCALE: N/A	COUNTY: MONTGOMERY	T.J.M.S. NO. F 580	
DATE: JUNE 2003	LOG MILE: IS01806.55		